



Sustainable Community Performance Measures:

Evaluation and testing in four
pilot communities

New Partners for Smart Growth

San Diego, California

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SUSTAINABLE COMMUNITY PERFORMANCE MEASURES

Overview of Project

- HUD-DOT-EPA Partnership for Sustainable Communities
 - Six livability principles
 - Developed 17 outcome-based performance measures
- Evaluation of measures
 - Identified national and local level datasets (public and private)
 - Conducted preliminary evaluation of the performance measures
- Testing of measures
 - Produced guidebook for four pilot communities
 - Communities tested measures and provided feedback in workshops



Performance Measures

Travel patterns

- Transit trips per capita
- Workers commuting by transit, bicycle, or foot
- VMT per capita

Co-location of transit, jobs, housing

- New homes built in areas well-served by transit (or near employment centers)
- Affordable homes and rental units well-served by transit (or near employment centers)
- Low income households within a 30 minute transit commute (or 20 minute driving commute) of major employment centers
- Jobs well-served by transit
- Residential units near employment centers
- Homes within walking distance to retail, services, and parks
- Household transportation costs

Transportation Costs



Performance Measures (continued)

Efficient use
of land, land
conservation

- New construction accommodated on previously developed land
- Rate of agricultural and natural resource land lost to development

Coordinated
plans,
investments

- Shared elements of regional transportation, housing, water and air quality plans tied to local comprehensive land use or capital improvement plans
- Dollars of public sector investment within ½ mile of a well-served transit stop (or within ½ mile of an employment center)
- Dollars of private sector investment within ½ mile of a well-served transit stop (or within ½ mile of an employment center)

Emissions

- Transportation related emissions per capita

Safety

- Non-occupant fatality rate

Pilot Communities





Measure: Vehicle Miles Traveled per Capita

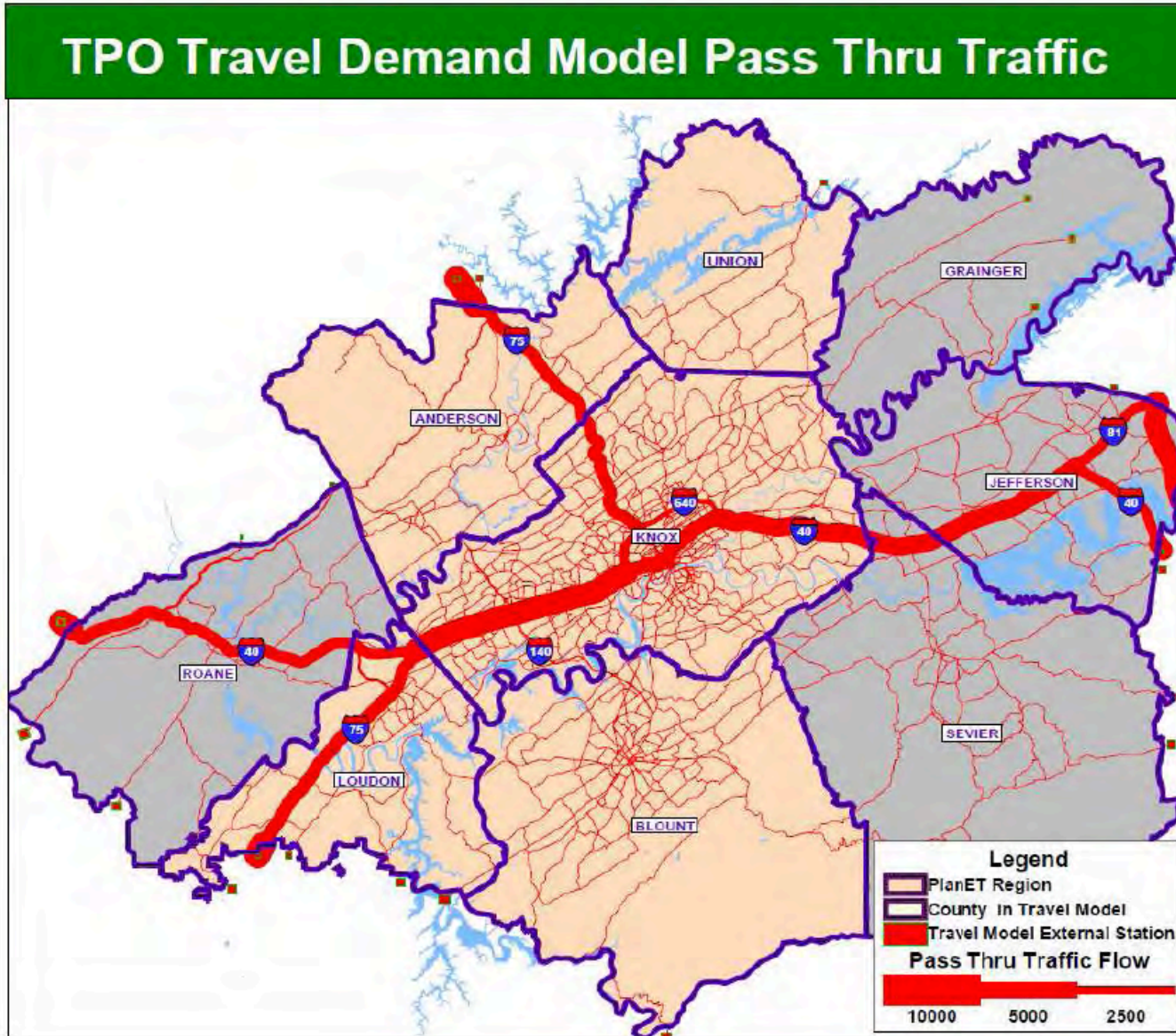
- **Data Elements:**
 - Vehicle Miles Traveled
 - Resident population
- **Geographic Boundary Approach**
 - VMT occurring within a jurisdiction
 - Data sources: FHWA Highway Statistics; travel demand model
 - Challenges: Not indicative of community control in some cases
- **Generated Trips Approach**
 - VMT generated by area residents
 - Data sources: travel demand model; household survey data; odometer/DMV data
 - Challenges: more time consuming to estimate



Measure: Vehicle Miles Traveled per Capita

- **Buffalo, Madison, and NRVPDC:** Used geographic approach only, with data from travel demand model and/or vehicle counts
- **Knoxville:** Used hybrid of geographic and generated trips approach
 - Attempted to account for pass-through traffic using travel model
- **Key observations:**
 - Relatively easy to calculate. But harder to compare over time.
 - VMT is not a clear indicator of sustainability, since many factors affect VMT
 - VMT per driver would better capture the experience of an individual motorist
 - The geographic approach does not lend itself to per capita comparisons at the county level

Measure: Vehicle Miles Traveled per Capita





SUSTAINABLE COMMUNITY PERFORMANCE MEASURES

Measure: Percent of existing homes within 1/2 mile radius of an employment center

▪ *Data Elements:*

- Location of employment centers
 - Contiguous areas of dense job concentrations
 - Identified in GIS through a multi-step process
 - Data source: Longitudinal Employer-Household Dynamics (LEHD)
- Existing homes within 1/2 mile radius of employment center
 - Data sources: U.S. Census or ACS
 - Distance Calculation: GIS buffer analysis



Measure: Percent of existing homes within 1/2 mile radius of an employment center

▪ ***Employment Centers:***

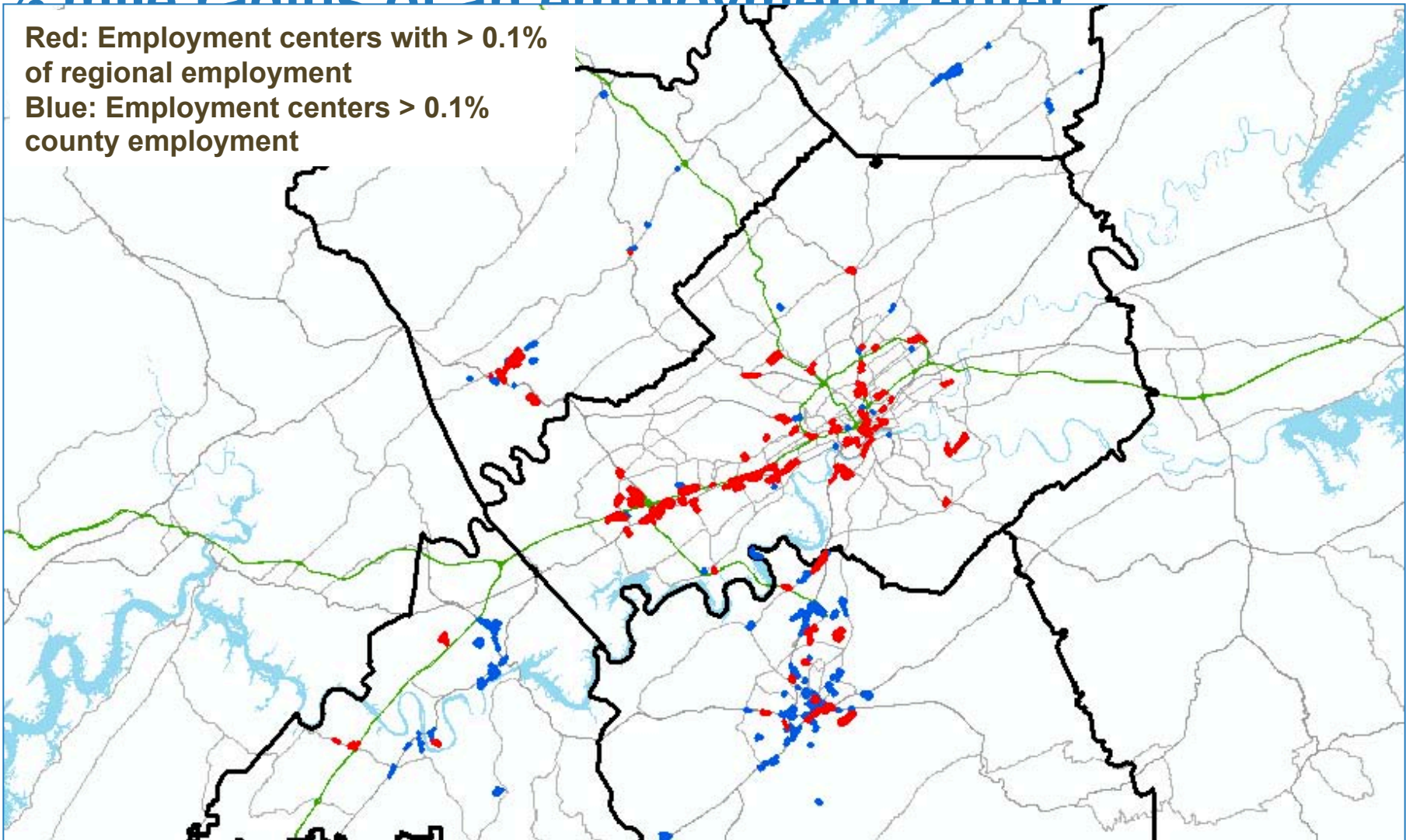
- LEHD incorrectly locates some jobs
- Knoxville and NRVPDC regions felt that each county should have identified employment centers
- A single quantitative definition may not serve the needs of all communities

▪ ***Residential Units***

- NRVPDC included all units in any part of a block group that are intersected by 1-mile boundary (used ACS data)
 - 61% of all homes in the New River Valley are within a block group within a 1-mile radius of areas identified as employment centers.
- Knoxville used ACS data but prefers to use permit or assessor data going forward
 - 12.0% of homes in Knoxville region within 1/2 mile of employment centers

Measure: Percent of existing homes within 1/4 mile radius of an employment center

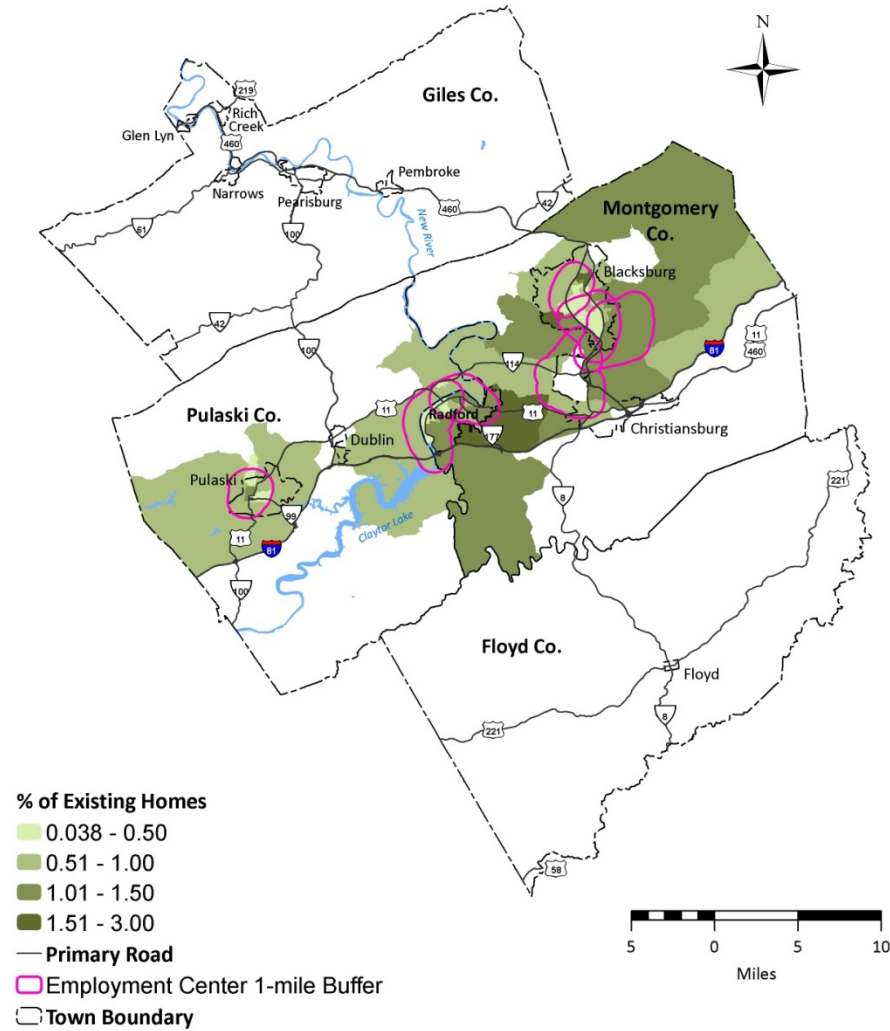
Red: Employment centers with > 0.1% of regional employment
Blue: Employment centers > 0.1% county employment



SUSTAINABLE COMMUNITY PERFORMANCE MEASURES

Measure: Residential Units Near Employment Centers

Main Employment Centers of the New River Valley
Homes within 1-mile Radius of Employment Centers





Measures for Further Development

- **Household transportation costs**
 - Pilot communities wanted more guidance on interpretation of this measure
- **New construction accommodated on previously developed land**
 - Communities hesitant to use land cover data
- **Dollars of public and private investment**
 - No complete datasets were found
- **Homes within walking distance to retail, services, and parks**
 - The function and identification of retail/service centers needs more work



Other Findings

- Pilot communities emphasized use of their own parcel level datasets, though there are questions about the quality of the data
- More guidance on appropriate geographic and time scales for calculation and comparison of measures is needed
- Many workshop participants wanted more discussion around the goals that are inherent in the performance measures, and more assistance in understanding what the results of measures mean about their communities.
- Pilot communities need more time to consider the use of performance measures in decision making.